Award Number: W81XWH-12-1-0212

TITLE: Wnt/beta-Catenin, Foxa2, and CXCR4 Axis Controls Prostate Cancer

Progression

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## FUITH APPIUVEU REPORT DOCUMENTATION PAGE OMB No. 0704-0188 Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS. 1 REPORT DATE 2. REPORT TYPE 3. DATES COVERED July 2015 Annual 1Jul2014 - 30Jun2015 4. TITLE AND SUBTITLE 5a. CONTRACT NUMBER W81XWH-12-1-0212 5b. GRANT NUMBER Wnt/beta-Catenin, Foxa2, and CXCR4 axis controls prostate PC111074 cancer progression 5c. PROGRAM ELEMENT NUMBER 6. AUTHOR(S) 5d. PROJECT NUMBER 5e. TASK NUMBER Xiuping Yu, Ph.D. 5f. WORK UNIT NUMBER E-Mail: xyu@lsuhsc.edu 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 8. PERFORMING ORGANIZATION REPORT **NUMBER** Vanderbilt University Medical Center Grand Rapids, MI 49503 9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) 10. SPONSOR/MONITOR'S ACRONYM(S) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012 11. SPONSOR/MONITOR'S REPORT NUMBER(S) 12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for Public Release; Distribution Unlimited 13. SUPPLEMENTARY NOTES 14. ABSTRACT Wnt/beta-Catenin signaling and associated target genes are implicated in the establishment of bone metastasis and in the development of castration resistant prostate cancer. Our previous studies have shown that Foxa2 is a Wnt/beta-catenin target gene in prostates. Our preliminary study suggests a Wnt-Foxa2-CXCR4 axis that is involved in PCa bone metastasis, and activation of this axis provides survival mechanisms for PCa cells following androgen deprivation. The hypothesis is that the Wnt/beta-catenin activation of Foxa2 and CXCR4 promotes progression to CRPCa and facilitates bone colonization by PCa cells, and that targeting this axis will provide a novel treatment for PCa bone metastasis and relapse after androgen ablation. Last October 1st, I moved from Vanderbilt to LSU Health Sciences Center, Shreveport, LA. This award is undergoing an institutional transfer. Since funds have been tied up during the transition, I have not been able to conduct any research related to this project since I moved to LSUHSC. Wnt beta-Catenin, Foxa2, CXCR4, prostate cancer, metastasis, castrate resistant

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### Introduction

Due to the transitional state of the award most of last year, we conducted few experiments.

### **Body**

We have optimized methods for invasion assays and stroma/epithelia co-culture. These methods will be used in the future research related to this project.

# key research accomplishments

We have optimized methods for invasion assays and stroma/epithelia co-culture.

## Reportable outcomes

none

#### **Conclusions**

We are ready to continue the research related to this project.

### References

None

# Appendice

None